

**CLAIMS**

1. A fin assembly for a surf craft, the assembly including:  
a base for mounting the assembly to the surf craft;  
a primary fin extending from the base and having a leading primary edge and a  
5 trailing primary edge; and  
a secondary fin extending from the base and having a leading secondary edge and  
a trailing secondary edge.
2. An assembly according to claim 1 wherein the base and the fins are integrally  
formed.
- 10 3. An assembly according to claim 1 wherein the leading edges of the fins are  
aligned.
4. An assembly according to claim 1 wherein the leading and the trailing edges are  
aligned.
5. An assembly according to claim 1 wherein the base extends longitudinally  
15 between the leading primary edge and the trailing secondary edge.
6. An assembly according to claim 1 wherein the trailing primary edge and the  
leading secondary edge are joined by an intermediate arcuate edge defined by the base.
7. An assembly according to claim 6 wherein the arcuate edge is of varying radius.
8. An assembly according to claim the primary fin extends along a first plane that is  
20 normal to the base.
9. An assembly according to claim 8 wherein both the primary and secondary fins  
extend along the first plane.
10. An assembly according to claim 1 wherein the fins include respective pairs of  
opposite faces that extend between the leading and trailing edges.
- 25 11. An assembly according to claim 10 wherein one or more of the faces are  
substantially planar.
12. A fin assembly including:  
a base for mounting the assembly to an object;  
a primary fin extending from the base and having a leading primary edge and a  
30 trailing primary edge; and  
a secondary fin extending rearwardly from the base and having a leading  
secondary edge and a trailing secondary edge.

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13. An assembly according to claim 12 wherein the leading primary edge is curved substantially complementarily to the leading secondary edge.
14. A fin assembly including:  
a base for mounting the assembly to an object;  
5 a larger fin extending from the base and having a leading primary edge and a trailing primary edge and a high rake; and  
a smaller fin extending rearwardly from the base and having a leading secondary edge and a trailing secondary edge.
15. An assembly according to claim 14 wherein the edges extend along a single  
10 plane.
16. An assembly according to claim 14 wherein the smaller fin is, in use, deformable in a direction normal to the plane.
17. A fin assembly for a surf craft, the assembly including:  
a base for mounting the assembly to the surf craft;  
15 a fin that extends from the base and which has a leading edge and a trailing edge that meet at a tip, where the edges lie substantially within a common plane; and  
a lobe extending rearwardly from the base, the lobe having a lobe edge that has a tangent that is parallel to the plane.
18. A fin assembly for a surf craft, the assembly including:  
20 a base having a substantially planar surface for mounting the assembly to the surf craft;  
a fin that extends from the base and which has a leading edge and a trailing edge that meet at a tip; and  
a lobe extending rearwardly from the base, the lobe having a lobe edge that has a  
25 tangent that is parallel to the surface.
19. An assembly according to claim 18 wherein the base, the fin and the lobe are integrally formed.
20. An assembly according to claim 18 wherein the base and the lobe extend longitudinally.
- 30 21. An assembly according to claim 20 wherein the base extends longitudinally between the leading edge and the trailing edge.

22. An assembly according to claim 21 wherein the lobe is directly underlying the leading and the trailing edge.
23. An assembly according to claim 22 wherein the lobe, the trailing edge and the leading edge extend in a common plane.
- 5 24. An assembly according to claim 18 wherein the trailing edge is feathered in an area intermediate of the lobe and the leading edge.
25. An assembly according to claim 24 wherein the trailing edge and the lobe are joined by an intermediate arcuate edge defined by the base.
26. An assembly according to claim 25 wherein the arcuate edge is of varying radius.
- 10 27. An assembly according to claim 18 wherein the fin extends along a first plane that is normal to the base.
28. An assembly according to claim 18 wherein each the fin includes a pair of opposite faces that extend between the leading and the trailing edges.
29. An assembly according to claim 28 wherein one or both of the faces are
- 15 substantially planar.
30. An assembly according to claim 28 wherein one or both of the faces are substantially arcuate.
31. An assembly according to claim 18 wherein the lobe includes a leading secondary edge and a trailing secondary edge.
- 20 32. An assembly according to claim 18 wherein the fin assembly includes one or more mounting formations that extend from the surface for engaging with complementary locating formations extending from the surf craft.
33. An assembly according to claim 32 wherein the or each mounting formation is a protrusion, and the or each locating formation is a recess.
- 25 34. An assembly according to claim 33 wherein the assembly includes two spaced apart mounting formations and the surf craft includes at least two locating formations.
35. A fin assembly including:
- a base for mounting the assembly to an object;
- a primary fin extending from the base;
- 30 a secondary fin extending from the base, wherein the base, the primary fin and the secondary fin include a combined total sectional area ( $A_f$ ); and

a feathered portion between two or more of the primary fin, the secondary fin and the base, wherein the feathered portion includes a sectional area ( $A_p$ ) where  $A_p > 0.2.A_f$ .

36. A surf craft including a fin assembly of any one of claim 1, claim 17 or claim 18.
- 5 37. A surf craft including a fin assembly of any one of claim 12, claim 14 or claim 35, where the object is the surf craft.
38. A method of manufacturing a fin assembly for a surf craft, the method including:  
forming a base for mounting the assembly to the surf craft;  
forming a primary fin that extends from the base and which has a leading primary  
10 edge and a trailing primary edge; and  
forming a secondary fin that extends from the base and which has a leading  
secondary edge and a trailing secondary edge.
39. A method according to claim 38 wherein the forming steps are performed simultaneously.
- 15 40. A method according to claim 38 wherein the base, the primary fin and the secondary fin are integrally formed.
41. A method according to claim 38 including the additional step of forming at least one mounting formation that extends from the base for engaging with a complementary locating formation that extends from the surf craft.
- 20 42. A fin assembly for a surf craft, the assembly, in use, providing a predetermined sectional water engaging area ( $A$ ) and including:  
a base for mounting the assembly to extend from a surface of the surf craft;  
a primary fin extending from the base and away from the surface; and  
a secondary fin extending from the base, wherein a high proportion of  $A$  is near  
25 the surface.
43. An assembly according to claim 42 wherein the primary fin terminates in a point having a predetermined height ( $H$ ) with respect to the surface, and at least  $0.4.A$  is within  $0.3.H$  of the surface.
44. An assembly according to claim 42 wherein at least  $0.45.A$  is within  $0.3.H$  of the  
30 surface.
45. An assembly according to claim 42 wherein at least  $0.5.A$  is within  $0.3.H$  of the surface.

46. An assembly according to claim 42 wherein at least 0.35.A is within 0.22H of the surface.
47. A fin assembly for a surf craft, the assembly including a sectional area of less than 95 cm<sup>2</sup>.
- 5 48. An assembly according to claim 47 wherein the sectional area is between about 90 cm<sup>2</sup> and 95 cm<sup>2</sup>.
49. An assembly according to claim 48 wherein the assembly extends from the surf craft and the perimeter of the area, excluding any common perimeter with the surf craft, is greater than about 380 mm.
- 10 50. An assembly according to claim 49 wherein the perimeter is greater than about 400 mm.
51. A fin assembly for extending from a surface of a surf craft, the assembly extending longitudinally and having a longitudinal peripheral edge that terminates at two longitudinally spaced ends that are both disposed adjacent to the surface, the edge being
- 15 at least 380 mm.
52. An assembly according to claim 51 wherein the edge is at least 400 mm.
53. An assembly according to claim 52 wherein the assembly includes a predetermined water engaging sectional area A that is bounded by the edge, where A is less than about 95 cm<sup>2</sup>.
- 20 54. A fin assembly for extending from a surface of a surf craft, the assembly extending longitudinally and having a longitudinal peripheral edge (PE) that terminates at two longitudinally spaced ends that are both disposed adjacent to the surface, the edge bounding a sectional area (A) of the assembly, wherein A/PE is less than 25.
55. An assembly according to claim 54 wherein A/PE is less than 24.
- 25 56. An assembly according to claim 54 wherein A/PE is less than 23.